



# GUIDELINES FOR ESTIMATING THE TRIENNIAL BENEFITS OF KANSAS TRANSPORTATION RESEARCH AND NEW DEVELOPMENTS (K-TRAN) RESEARCH PROJECTS

Report Number: KS-03-9

By

Robert W. Stokes, Michael W. Babcock, Eugene R. Russell, and Margaret J. Rys,  
All with Kansas State University

## RESEARCH

### Introduction

The Kansas Transportation Research and New Developments (K-TRAN) program has funded 200 research projects between 1991 and 2003. Estimates of the benefit of research projects are needed at several stages in the research program.

### Project Objective

The objectives of this research were to: 1) identify and evaluate techniques for estimating the benefits of transportation research projects, 2) test one or more of the techniques by preparing estimates of the benefits of selected completed K-TRAN projects, and 3) develop and document easy to use guidelines that project monitors and principal investigators can use to develop estimates of the potential benefits of research projects.

### Project Description

The guidelines presented in this report represent a hybrid approach to research project assessment that incorporates elements from traditional benefit-cost and multi-objective analysis techniques. The basic methodology requires the researcher to perform an initial subjective assessment of project benefits using a checklist of potential benefit categories. If the process leads to the development of a monetary estimate of benefits, then a benefit-cost analysis can be performed. If it is determined that the project benefits cannot be expressed in purely economic terms, then the results of the subjective multi-objective assessment are assumed to represent the best assessment possible.

### Project Results

Applications of the recommended guidelines in estimating the potential monetary benefits of research projects is illustrated through an extensive set of examples using information from 14 completed K-TRAN projects for the period 1991-2000. Current KDOT policy requires that all K-TRAN proposals and project reports include an Implementation Plan. This study recommends that this policy be expanded to require a project Benefit Assessment.

### Report Information

For technical information on this report, please contact: Robert W. Stokes, Professor, Department of Civil Engineering, Fiedler Hall, Room 2123, Kansas State University, Manhattan, Kansas 66506-2905, Phone: 785-532-1595, Fax: 785-532-7717, Email: [drbobb@ce.ksu.edu](mailto:drbobb@ce.ksu.edu)

For a copy of the full report, please contact: For a copy of the full report, please contact: KDOT Library; 2300 SW Van Buren Street, Topeka, Kansas 66611-1195; Phone: 785-291-3854; Fax: 785-296-2526; e-mail: [library@ksdot.org](mailto:library@ksdot.org)